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The United States of America



The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

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Bruce Lehman

Commissioner of Patents and Trademarks

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NOTICE

If the application for this patent was filed on or after December 12, 1980, maintenance fees are due three years and six months, seven years and six months, and eleven years and six months after the date of this grant, or within a grace period of six months thereafter upon payment of a surcharge as provided by law. The amount, number and timing of the maintenance fees required may be changed by law or regulation. Unless payment of the applicable maintenance fee is received in the Patent and Trademark Office on or before the date the fee is due or within a grace period of six months thereafter, the patent will expire as of the end of such grace period.

United States Patent [19]

Wells et al.

[11] Patent Number: **5,707,331**[45] Date of Patent: **Jan. 13, 1998**[54] **AUTOMATIC MULTIPLE-DECANTING CENTRIFUGE**

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[21] Appl. No.: **435,662**

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[51] Int. Cl.⁶ **B04B 5/02**

[52] U.S. Cl. **494/20; 494/32**

[58] Field of Search **494/13, 14, 16, 494/17, 20, 32, 33, 35, 85; 210/781, 782**

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[57] **ABSTRACT**

A centrifuge is capable of holding a sample container in selected orientations, either during or after centrifugation, to drain supernatants between two or more chambers of the container. The draining may be gravity or centrifugal draining. This allows an automated process to subject a sample to a first physical or chemical treatment to produce a first supernatant, the first supernatant to be subjected to a second physical or chemical treatment, and a second supernatant to be separated from a desired component.

21 Claims, 3 Drawing Sheets

